Amendments to the Specification

Please amend the specification as follows:

At page 2, lines 19-29:

According to the present invention, the foregoing and other objects and advantages are

achieved a systematic approach to forming experimental designs for large, complex systems after

an idea for a product is formed. In accordance with a first aspect of the invention, critical

variables for the product are determined by experts in the field, a design matrix Uk is defined, a

base design matrix X is generated, $Y(P) = (I-B(B^TB)^{-1}B^T)[XP)//U]A$ & Wynn's criterion is

defined, wherein P is a permutation matrix, I is an identity matrix, B is a blocking matrix, B^T is a

transposed matrix B and A is a matrix composed of causal map-based coefficients and wherein a

design matrix U_k is created. The index $k \leftarrow k+1$ is set and an algorithm to choose the best of

random column permutation matrices P and an algorithm to choose the best column permutation

matrix P that is near a previous solution and ~~settin~~ setting $U_k \leftarrow [XP^k$ with rows from U_{k-1}

appended].

At page 5, line 39 through page 6, line 4:

Generating such lists of responses and factors is a common part of experimental design

practice. At one end of the experimental spectrum are small experiments and short lists of

~~expecially~~ especially important variables (responses and factors). Because there weren't

efficient experimental methods to incorporate larger numbers of variables, complex systems with

larger numbers of variables could not be efficiently designed. The present invention provides a method of efficiently designing larger more complex lists of variables. The ability of efficiently designing experimental designs for the larger more complex lists of variables is the major value of the present invention.

At page 8, line 49 through page 9, line 3:

When the Internode Link-Count Distance Matrix is determined, the next step is to apply a multidimensional scaling algorithm to create a D-dimensional (D typically 2 or 3) set of node coordinates called a causal map. Especially when $D = 2$, one can plot the nodes as points on rectangular graph paper, and so both the coordinates themselves and the ~~sesulting~~ resulting graph 400, Figure 4 are called causal maps. One example of a multidimensional scaling algorithm is XGvis. Its application to visualizing networks is known and is conventional practice.

At page 15, lines 21-26:

After the optimal design ~~algoritm~~ algorithm is run Step I, Figure 2, 220 is run it is determined at 222 if the design U_k is large enough. If it is determined at 220 that there the design U_k is not large enough the flow returns to Step I and the optimal design ~~algorith~~ algorithm is repeated until it is determined at 222 that the design U_k is large enough. When this occurs the flow goes to Step J and the design experiment U_k is complete and the flow returns to Figure 1, Step D as indicated by arrow 226.